

SCAR RUPTURE IN RURAL OBSTETRIC PRACTICE—A CRITICAL REVIEW

by

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Choice between Lower segment and Classical Caesarean Section was over for a long time and the delivery through lower segment approach has been the universal practice. This however does not give guarantee against the inherent risk in future pregnancy i.e. scar rupture. An attempt is made in this communication to critically analyse the scar rupture met in rural obstetric practice where primary C.S. was done in rural environment.

During the period 1965-1973 there were 226 post caesarean pregnancies excluding abortion, managed by the author while attached to District Hospitals Jalpaiguri, Suri, and Chinsurah of West Bengal. There were 6 cases of scar rupture giving an incidence of 2.6%. There were 74 cases of uterine rupture during the period and the scar rupture constituted 8.11%.

Analysis

Out of 226, 173 were delivered by section and the rest 53 were delivered vaginally. All the rupture cases were confined to C.S. group and except 1 all were not appreciated until the time of surgery.

TABLE I
Incidence of Scar Rupture in Relation to Type of Primary C.S.

	No. of rupture	Incidence
L.S.C.S. (215)	4	1.9%
Classical (11)	2	18.2%

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There was 10 fold increased risk of classical scar rupture as compared to lower segment scar rupture.

TABLE II
Incidence of Scar Rupture in Relation to Medical Personnels Performing the Primary C.S.

	No.	No. of rupture	Incidence
Non-Gynaecological Surgeons	58	5	8.6%
Gynaecologists	151	1	0.7%
Not stated	17	0	0
	226	6	2.6%

The incidence of scar rupture increased by 12 times when the primary C.S. was done by non-gynaecological surgeons.

The indications of primary C.S. in cases of scar rupture were A.P.H. in 3, C.P.D. in 1, inertia in 1 and elderly primi with myomectomy in 1.

TABLE III
Incidence of Scar Rupture Detected in Relation to Time of Performance of C.S.

	No. of rupture	Incidence
Elective	(96)	1
Following Trial	(19)	1
Emergency during labour	(58)	4
	(173)	6

The incidence was 7% when C.S. was done in emergency admission.

TABLE IV
Incidence of Ruptures in Relation to Labour

		No. of rupture	%
Before labour	96	1	1%
During labour			
C.S.	77		
Vaginal delivery	53	5	3.8%
		6 hrs. —4	
		12 hrs. —1	

Accidental detection of one classical scar rupture was made at 38 weeks. Scar rupture was detected as early as 6 hours in 4 and as late as 12 hours of labour in 1.

Morbid Anatomy of Rupture

Out of 4 lower segment ruptures, 3 were complete and 1 was incomplete. Three out of 4 ruptures were limited to the right end of the scar all measuring about 2 x 2 cm. In 1, the entire scar gave way with the foetus and the intact sac lying in the peritoneal cavity. Both the classical scars which gave way were complete with rent in the peritoneal coat

Foetal Salvage

There was 1 stillbirth and the remaining 5 were born mature alive and well including the 1 which was lying in the peritoneal cavity. Postoperative period was uneventful and all were discharged in due time.

Discussion

Scar rupture constituted 8.11% of total uterine ruptures during the period of study. This was in contrast with that given by Menon (1962) being 23.1%. The incidence of scar rupture mentioned by various authors was shown in Table V.

TABLE V

Author	L.S.C.S.	Classical	Total in series
Holland (1921)	—	4%	—
Dewharst (1957)	0.5%	2.2%	—
Hutabarat <i>et al</i> (1974)	0.5%	—	0.5%
Rosario and Das (1958)	—	—	5%
Caballero and Bravo (1967)	—	—	3.9%
Reid <i>et al</i> (1969)	—	—	2.9%
Present series	1.9%	18.2%	2.6%

of about 3 x 3 cm. in the middle of the scar.

Management

Lower segment scar ruptures were managed by repair with tubectomy in 2, repair in 1 and hysterectomy in 1. Classical scar ruptures were managed by repair with tubectomy in 1 and L.S.C.S. with repair and tubectomy in other.

Even assuming a modest inclusion of about 5% cases of post classical C.S. with an occasional rupture included in the above publications not specifically mentioned, the risk of lower segment scar rupture was not insignificant. The unequivocal risk of classical scar has been evidenced by the 10 fold increased incidence of rupture over that of lower segment scar in the present series. A 4

times risk was cited by Dewharst (1957).

Since the introduction of L.S.C.S. there has been practically little alteration in the technique of surgery. Various parameters are mentioned for good healing of uterine wound leading to a sound scar.

It needs no explanation that a primary C.S. done by an expert will give a good result. But in rural area where many a primary C.S. has to be done by non-gynaecological surgeons under forced circumstances, one would expect an increased incidence of primary classical operation or an unsound scar even in lower segment caesarean section. The cumulative effect of these two lead to the increased risk of scar rupture to the extent of 12 times over those where primary C.S. was done by qualified gynaecological surgeons found in the present series. Concept of a weak scar following C.S. due to placenta praevia was revealed in the analysis. Quick surgery, imperfect apposition and chance of infection in the thrombi of the uterine sinuses are some of the factors attributed for an unsound healing.

While classical scar can give way during pregnancy a lower segment scar rarely ruptures during pregnancy although as many as 4 cases of scar rupture during pregnancy were mentioned by Reid *et al* (1969). It was interesting to note that in the present series all the patients except one had their ruptured scar detected accidentally during C.S. done in very early labour. It may be assumed that some of them were preexisting and would have been revealed even if C.S. was done before labour.

As in the present series, all the publication mentioned a nil or low incidence of scar disruption in vaginal delivery group, Caballero, *et al* (1967) mentioned 1.6% incidence of scar rupture in vaginal deli-

very group as against 7.6% in C.S. group. Reid *et al* (1969) mentioned none in the vaginal group. It may be due to selectivity of the cases for vaginal delivery or failure to detect small window type of rupture showing no adverse clinical features.

Against the traditional concept, as many as 3 out of 4 lower segment ruptures were complete. This can probably be avoided by putting uterine incision a little below the peritoneal incision so that the uterine wound will be covered by peritoneum. It was interesting also to note that 3 out of 4 lower segment ruptures involved the right angle of the scar. It may be due to defective suturing of the angle because of nonvisibility which could be rectified by holding the angle by Allis forceps while closing the angle, otherwise a pocket may be left behind thereby weakening the area.

Conservative repair operation with or without tubectomy is enough in majority of cases. In an isolated case where there is extension of tear to one or both the sides involving uterine vessels one may have to do hysterectomy.

Because of its accidental early detection in majority of cases, the maternal and foetal risks are minimal, although an occasional maternal death or an increased foetal loss have been reported.

Summary

1. Scar rupture—Constituted 8.11% of uterine rupture and the incidence was 2.6% during the period of study.
2. There was inclusion of 5% post-classical C.S. cases in the series.
3. The risk of classical scar rupture was found 10 times more over that of lower segment one.
4. The risk of scar rupture was found 12 times more where primary C.S. was done by non-gynaecological surgeons.

5. There was 50% chance of scar rupture in cases where primary C.S. was done for A.P.H.

6. Except in one case all the ruptures were detected accidentally during C.S. There was no scar rupture in vaginal delivery.

7. Three out of 4 Lower segment scar ruptures were complete and also in 3, the involvement was restricted to right end of the scar.

8. Conservative repair with or without tubectomy was done in 5, hysterectomy in the rest.

9. There was no maternal morbidity on death. Foetal loss was confined to one.

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